Fact Sheets

SRS

D Area Expanded Operable Unit

Background

The D Area Expanded Operable Unit (DEXOU) is located in D Area, in the southwest quadrant of the Savannah River Site (SRS), approximately 3,000 feet east of the Savannah River. It consists of two subunits, the 488-D Ash Basin (488-DAB) and D Area Rubble Pit (DRP). Past practices at these facilities contaminated the soil, sediment, surface water, and groundwater.

The 488-DAB was constructed in the early 1950s and used to retain and stabilize ash from the 484-D powerhouse operations. It is an unlined earthen containment basin approximately 1800 feet long by 600 feet wide by 18 feet deep. Ash was initially sluiced into the basin until 1978 when it was diverted into other D Area basins. At that point, the 488-DAB received only dry ash and small amounts of coal rejects until the mid 1990s. Coal rejects were also dumped on the north slope, outside the basin.

Drainage from this berm area has caused some of the coal rejects to become mobile and settle into an area that is now devoid of vegetation (dead and stressed vegetation area). Areas investigated during the characterization of the unit include the basin interior, a pooled water area within the basin, the basin exterior including the basin berms, the basin drainage, and an area of dead and stressed vegetation outside the basin.

The DRP is located northwest of the 488-DAB. It is an 8-acre, heavily vegetated area used to dispose of non-hazardous materials such as metal, treated lumber, roofing materials, asphalt paving materials, and fibrous material presumed to be asbestos. There are no records indicating disposal of hazardous or radioactive wastes however, coal rejects are evident in some areas. The DRP began receiving waste materials in the early 1950s until 1989.

Environmental Concerns

The 488-DAB interior, consisting mainly of ash and a mixture of ash and coal rejects in the top four feet, has elevated levels of arsenic and some coal-related radionuclides that pose a threat to a future industrial worker and are predicted to impact groundwater. Arsenic, selenium, and vanadium have been identified as ecological concerns in the surface and subsurface soils. Low pH surface water at the west end of the basin contains metals that pose an unacceptable risk to the ecological receptors and may contribute to groundwater contamination.

Surface soils and sediments outside the basin contain elevated levels of arsenic, coal-related metals and radionuclides, presents a carcinogenic risk to future

industrial workers and a risk to ecological receptors. Surface water at the dead and stressed vegetation area and the basin drainage also pose a risk to ecological receptors.

Cleanup objectives include preventing contaminants in the basin from leaching to groundwater; preventing exposure of future industrial workers to unacceptable levels of arsenic, coal-related metals and radionuclides; and to protect ecological receptors from exposure to the low pH surface water and contaminated sediments and soils.

The surface soils at the DRP contain elevated levels of arsenic. The presence of coal rejects at the unit results in a low pH leachate mobilizing metals that have contaminated groundwater and may continue to impact groundwater.

A PCB hot spot, approximately 2,000 cubic yards, poses a risk to ecological receptors. Remediation goals include preventing exposure of future industrial workers to soils containing unacceptable levels of arsenic and PCBs, prevent exposure to ecological receptors to the elevated levels of metals and PCBs in soils, and to prevent the generation of low pH leachate and contaminants (metals) from leaching to groundwater.

Environmental Actions and Plans

Characterization of the DEXOU was performed in phases beginning in 1998 and concluding in 2002. A Resource Conservation and Recovery Act (RCRA) Facility Investigation/Remedial Investigation and Baseline Risk Assessment (RFI/RI/BRA) was completed in July 2003. The RFI/RI/BRA was approved by the U.S. Environmental Protection Agency (USEPA) and South Carolina Department of Health and Environmental Control (SCDHEC) in July 2003.

A Corrective Measures Study/Feasibility Study (CMS/FS) and a Statement of Basis/Proposed Plan (SB/PP) were submitted to the USEPA and SCDHEC in October 2003. The preferred alternative outlined in the SB/PP is to excavate and remove the waste materials (soils and sediments) from the DRP and areas outside of the 488-DAB and consolidate them in the 488-DAB. A geosynthetic cover system will then be installed over the 488-DAB and all areas will be institutionally controlled.

The DEXOU Remedial Action Start is planned for January 2005.